

REMARKS

Status of the Claims

In the Office Action claims 1-29 were noted as pending in the application. All claims stand rejected. Claims 1-10 and 12-29 stand rejected. Claim 11 is objected to.

A. Rejection of Claims under 35 U.S.C. §103(a).

Claims 1-9, 12-19 and 21-28 are rejected as being obvious over U.S. Patent number 6,603,769 to Thurbert, *et. al.* ("Thurbert") in view of U.S. Patent Number 5,732,071 to Saito, *et. al.* ("Saito"). Claims 10, 20 and 29 are rejected over Thurbert and Saito further in view of U. S. Patent Number 6,130,892 to Short, *et. al.* ("Short").

B. Summary of Cited References

Before addressing the Examiner's rejections, a brief summary of the cited references is provided.

Thubert

Thubert relates to traffic in an internet environment between a source host attached to a first LAN and a target host attached to a second LAN, both LAN's being interconnected by a router. Abstract. Bridges act at the MAC layer level and listen to all message traffic on all networks and forward each message onto the networks other than the one from which it was heard. Col. 3, lines 18-23. A router sends the MAC address of a target device to a source device so the source device can send a message to the target with the target's IP and MAC addresses. Col. 5, lines 42-45.

Saito

Saito relates to ATM bridging. Col. 4, lines 48-50. A bridge is connected between a first LAN and a second LAN to monitor a destination MAC address of each MAC frame from one segment to another when a host having the destination MAC address is considered to be not present on the one segment side. Col. 1, lines 31-39.

Short

Short relates to a nomadic router that mimics a home network regardless of where a portable terminal, such as a laptop computer access a communication network, such as the internet. Thus, the portable terminal need not be reconfigured each time the internet is accessed. Abstract. The nomadic router translates the laptop's permanent IP address with the address of the attached communication device that is providing access to the communication network. Col. 6, lines 1-7. This interface translation is done just below the IP layer (layer 3) and above the data link layer (layer 2). Col. 6, lines 23-24. Firewall filters allow packets through that meet transport (port) and network (IP address) criteria. Col. 7, lines 1-3.

C. The Claims are not Obvious over the cited references

Applicant respectfully submits that the subject matter of the claims patentably distinguish over the cited references. Under MPEP § 2142, for an examiner to establish a *prima facie* case of obviousness, “three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant’s disclosure.” If any of these three criteria are not met, the Examiner has not met the burden of establishing a *prima facie* case of obviousness, and the rejection should be withdrawn.

Furthermore, each dependent claim includes all of the limitations of the independent claim from which it depends. If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Applicant respectfully submits that the burden of establishing a *prima facie* case of obviousness has not been met.

D. Claims are not obvious over the cited references

Claim 1 claims “[a] system for enabling layer-3 communication within a sub-network for those members of the subnetwork without layer-2 communication . . . a first network device comprising a media access control address of [a] forwarding agent, [wherein] the first network device interprets an address resolution protocol request from [a] sending device, and sends an address resolution protocol reply comprising the media access control address of the forwarding agent to the sending device.”

Examiner correctly states that Thubert fails to teach sending an address resolution protocol reply comprising the media access control (“MAC”) address of the forwarding agent to the sending device. However, examiner incorrectly states that the method of responding to an ARP request of Saito can be implemented by adding the MAC address of the forwarding agent at the router. Furthermore, this statement that an element from one reference can be added to another reference to arrive at a claimed limitation appears to rely on hindsight, which is impermissible.

As discussed above in the summary of Saito, the second passage mentioned above clearly shows that Saito is related to ATM bridging. The bridging process determines whether an ATM packet, having been sent by a sending host, contains a destination MAC address of a destination host that is not considered to be present on the destination-side segment of the bridge. As a first point, claim 1 of the present claim applies to communication between hosts “within [the same] subnetwork.” Saito clearly states that it is for use between hosts that are in different LANs, or subnetworks. Moreover, the passage referenced above in Saito clearly indicates that the ATM frame being sent contains the MAC address of the receiving device.

In contrast, notwithstanding that claim 1 relates to IP packets within the same subnetwork, and Saito relates to the sending of ATM frames between different networks, a packet communicated in the claimed system does not contain the MAC address of the destination address. This is because it contains the MAC address of the forwarding

agent, a limitation that is clearly recited in claim 1. The advantage provided by this novel feature is that MAC addresses of receiving hosts need not become known by sending hosts.

In Saito, the MAC address of the receiving host is clearly known by the sending host. Therefore, the limitations of claim 1 are not found in the references. Furthermore, there is no suggestion or motivation to combine reference, because the ATM inter-network environment is different from the intra-network environment of the subject matter claimed in claim 1. In addition, there is not a likelihood of success of arriving at the claimed subject matter by combining the cited references because the sending host does not know the MAC address of the receiving host, as is taught in Saito.

Claim 1 is representative of independent claims 12 and 21 to the extent they all include the limitation of replying to the sending host with the MAC address of the forwarding agent rather than the MAC address of a destination host. Thus, these claims also patentably distinguish over the references. Accordingly, independent claims 1, 12 and 21 are not obvious over the references, and withdrawal of the rejection is respectfully requested.

With respect to claims 2-3, 16 and 25, Examiner asserts that Thubert discloses a first network device comprising a proxy-proxy address resolution protocol function adapted to interpret the address resolution protocol request. Although the base claims from which these rejected claims respectively depend stand rejected over Thubert in view of Saito, the particular feature of these claims was only evaluated by examiner as being disclosed in a single reference. Furthermore, as discussed above, Applicant respectfully traverses Examiner's rejection of the base claims. Therefore, the claims are not obvious because their respective base claims are not obvious. However, Applicant traverses the rejection because the feature is not found in the reference. Moreover, the reference teaches away from the feature. Therefore, it is not anticipated nor obvious.

Thubert does not disclose a "proxy-proxy address resolution protocol [("P2ARP")] function adapted to interpret [an] address resolution protocol request" within a sub-network for those members thereof that are not configured to for layer-2 communication. This feature is not being 'read into' the claims because it is part of the base claim of the rejected dependent claims. The specification teaches that the P2ARP intercepts an ARP that is sent from a sending device and is intended for a receiving device. The P2ARP 'looks into' the ARP and determines the IP address of the destination device, this IP address being contained in the ARP. Page 5, lines 25-28. When the sending and receiving devices are unable to communicate via layer-2 communication - such as occurs when a network administrator purposefully configures the devices for this restricted operating condition - the P2ARP determines the MAC address of a forwarding agent, and formulates a reply to the ARP request. Page 6, lines 1-13. Thus, the sending device does not obtain the MAC address of the destination device that it requested in the ARP.

Moreover, the reference teaches away from the claimed subject matter. Thubert clearly teaches that in response to an ARP being run on the first network by the source device, the router replies to the ARP request with the MAC address of the target (destination) device on the other network. Thus, notwithstanding that the environment in Thubert is multi-network, whereas the environmental context of the present application is within a single network as recited in the claims, even if the router of Thubert is analogous

to the P2ARP function of the present application - Applicant traverses the drawing of an analogy between the router and the P2ARP function - Thubert teaches providing the source device with the MAC address of the destination device. Since claim 3 recites replying to the sending device's ARP request with the MAC address of the forwarding agent rather than the MAC address of the destination device, and Thubert teaches replying to the ARP request with the MAC address of the destination device, Thubert teaches away from the recited limitation of the claim. In addition, because claim 3 is representative of limitations in rejected claims 16 and 25, Thubert teaches away from them too. Accordingly, withdrawal of the rejection of claims 1-3, 16 and 265 is respectfully requested.

With respect to claim 6, the claim recites a "first network device . . . adapted to communicate through a plurality of network communication layers including layer-3." Notwithstanding that the claimed first network device is not a router or bridge, the Thubert passage cited by examiner discusses routers that may be replaced with bridges, stating that "[b]oth have specific characteristics as they operate at different layers of protocol of the network." Thus, even if the first network device were a router or a bridge, Thubert specifically teaches away from a network device "adapted to communicate through a plurality of network communication layers including layer-3. Claim 6 is representative of claim 8, 18, 23 and 27. Accordingly, withdrawal of the rejection with respect to claims 8, 18, 23 and 27 is respectfully requested.

With respect to the rejection of claims 10, 20 and 29, Examiner cites Short because it describes a firewall. Therefore, asserts Examiner, it would have been obvious to use a firewall to filter packets and protect the network. Applicant traverses this assertion for several reasons. First, the fact that a particular element of a claim is found in a reference does not render that element obvious, much less the invention as a whole. There must be some motivation to combine references for a limitation that is found in the references to render the claimed limitation obvious. Examiner has not cited such motivation in the references. Thus, the rejection should be withdrawn.

With respect to dependent claims 4, 5, 7, 9, 14-15, 17, 19, 24, 26 and 28-29, the base claims from which they depend patentably distinguish over the references as discussed above. Therefore, they too patentably distinguish over the references and withdrawal of the rejection is respectfully requested.

With respect to the objection to claim 11, Applicant appreciates Examiner's recognition of novelty and non-obviousness of the subject matter recited therein. However, in light of the above discussion, Applicant respectfully submits that amendment to the claim is not necessary since the base claim from which claim 11 depends is novel and non-obvious. Therefore, since the base claim from which claim 11 depends patentably distinguishes over the references, so too does claim 11. Withdrawal of the objection is respectfully requested.

SUMMARY

For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance and that action is earnestly solicited.

If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an

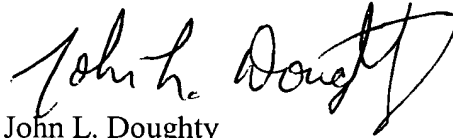
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Examiner's amendment please contact the undersigned at the mailing address, telephone, facsimile number, or e-mail address indicated below.

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Respectfully submitted,

Arris International, Inc.

A handwritten signature in black ink, appearing to read "John L. Doughty". The signature is stylized with a large, sweeping "D" at the end.

John L. Doughty
Reg. No. 47,533